

Comunicazioni orali
PACING AND ELECTROPHYSIOLOGY

**Acute Supraventricular Arrhythmia Management
via Percutaneous Left Stellate Ganglion Block:
A Single Center Study**

L Candido Todesco, B De Guidi, A Morena, P Meynet, E Cesarano, F Angelini, S Frea, C Gravinese, D. Melis, G Gallone, M Anselmino, G De Lio, F Ferraris, P Boretto, A Saglietto, D Castagno, P Bocchino, F D'ascenzo, G M De Ferrari, V Dusi

Dott. Lorenzo Candido-Todesco

Acute Supraventricular Arrhythmia Management via Percutaneous Left Stellate Ganglion Block: A Single Center Study

Electrical storm management in structural heart disease

Acute phase stabilization

Intra-hospital dedicated protocols

Subacute/Chronic phase

Referral to specialized centers

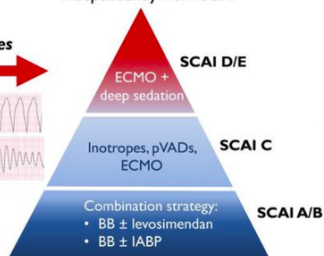
Initial strategy:

- **Anti-arrhythmic drugs:**
 - **Amiodaron iv:** 5 mg/kg (loading dose) in 20-60 min, then 600-1200 mg/24h irrespective of acute efficacy
 - **Lidocaine iv:** 1-2 mg/kg boluses, if effective continue with 20-50 y/kg/min
 - **Procainamide iv** (consider only if NYHA I/II and/or SCAI A): 100 mg bolus repeatable (max 50 mg/min), then 2-6 mg/min
 - **Non-selective BB:** e.g. oral propranolol 10-40 mg every 6h; if more rapid effect needed: iv esmolol or landiolol
- **Mild to moderate sedation:** benzodiazepine + opioid, consider dexmedetomidine.
- **Correction of reversible causes:** ischemia, hypoxemia, fever, electrolytes imbalance ($K^+ > 4$ mEq/L, $Mg^{2+} > 2$ mg/dL, corrected Ca^{2+} in range), toxins
- **ICD reprogramming**
- **Pharmacological LV unloading**

Recurrences



PLSGB (or TEA)
independently from SCAI



Hemodynamic evaluation

Multidisciplinary heart team discussion (eligibility for permanent LVAD and/or HTx assessment)

1. Non-pharmacological treatments implementation:

- **RFCA** (MVT or PVB-triggered PVT/VF). Asses need for prophylactic MCS (PAINESD score)
- **CSD** (PVT, VF, recurrent MVT > 150 bpm after RFCA)
- **Non-invasive stereotactic ablation** (slow MVT, worse NYHA class, frail/older patients)

2. If 1 unfeasible/excessive risk/refused:

- **Propranolol or nadolol +**
- **Oral amiodaron +**
- **Mexiletine (or ranolazine)**

Asimmetria innervazione cardiaca simpatica:

GS Destro:

NSA, atrio dx e sn, superficie ventricolare anteriore (maggiormente VD)

GS Sinistro:

NAV, atrio dx e sn, superficie ventricolare posteriore (maggiormente VS)

Dusi V, et al. "Electrical storm management in structural heart disease." *Eur Heart J Suppl*, 2023; C242–C248



Metodi:

Studio osservazionale;

Arruolamento: UTIC Ospedale Molinette, Torino, dal 01/2021 al 04/2026

Criteri inclusione:

- SVAs ad alta penetranza ($FC \geq 100$ bpm);
- Instabilità emodinamica (classe SCAI $\geq B$);
- PLSGB solo bolo (lidocaina + ropivacaina 100 +100 mg)

Endpoints:

- Endpoint primario: Riduzione $FC \geq 20\%$ o totale soppressione aritmia ad 1h, 6h, 24h.
- Endpoint secondari: Stabilità emodinamica (PAS, PAD, FC ad 1h e 6h ± 2) ed outcomes intraospedalieri (ablazione SVAs, impianto LVAD, morte/ HTx)

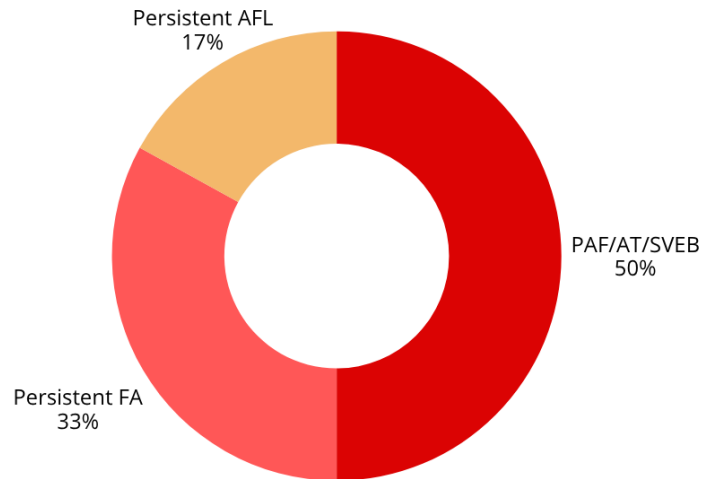


Risultati - Popolazione

- 24 PLSGBs, 23 pazienti
- FE VS mediana al momento del blocco: $25\% \pm 11\%$
- FC mediana al momento del blocco: 141 ± 23 bpm

Characteristic	Overall (N=24)	PAF/AT (N=12)	Persistent AF (N=8)	Atrial flutter (N=4)	P-value
ICM	8/24 (33.3%)	2/12 (16.7%)	6/8 (75.0%)	0/4 (0.0%)	0.012
NICM	9/24 (41.7%)	4/12 (41.7%)	1/8 (12.5%)	4/4 (100.0%)	0.019
ACS/TTS	7/24 (29.2%)	6/12 (50%)	1/8 (12.5%)	0/4 (0.0%)	0.234
Pregressa ablazione SVA	4/24 (16.7%)	0/12 (0.0%)	3/8 (37.5%)	1/4 (25.0%)	0.051
Amiodarone os cronico	6/24 (25.0%)	0/12 (0.0%)	5/8 (62.5%)	1/4 (25.0%)	0.005
ICD	8/24 (33.3%)	0/12 (0.0%)	6/8 (75.0%)	2/4 (50.0%)	<0.001

Supraventricular Arrhythmia



PAF: paroxysmal atrial fibrillation, AT: atrial tachycardia
SVEB: supraventricular ectopic beats, AFL: Atrial Flutter
(3 atypical, 1 typical)



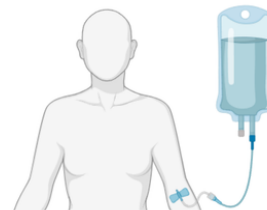
Risultati

Stabilità emodinamica

- Classe SCAI C–D: 50%;
- NT-proBNP mediano: 6504 ng/L;
- Terapia inotropica/vasoattiva:
 - 87.5% FA persist/FLA;
 - 41.7% in PAF/AT/SVEB;
- MCS: 21% (4 IABP, 1 LVAD);

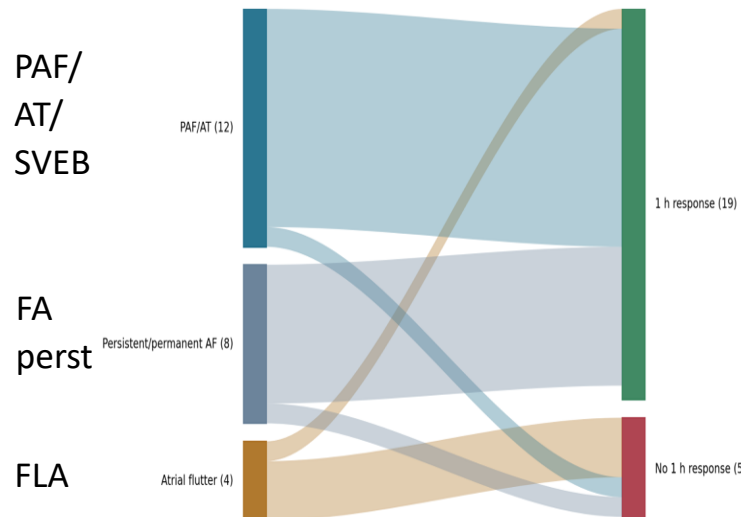
Terapia medica antiaritmica

- 8% Betabloccanti ev;
- 96% amiodarone ev:
 - 29% solo bolo;
 - 71% bolo + infusione continua ev;



Efficacia globale ad 1 h

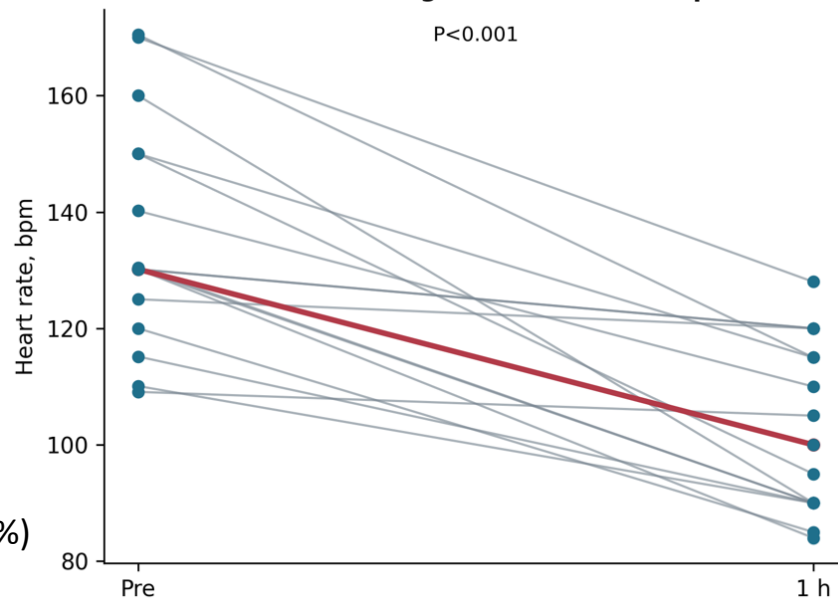
Arrhythmia group and 1 h response



Risposta ad
1 h (19; 79%)

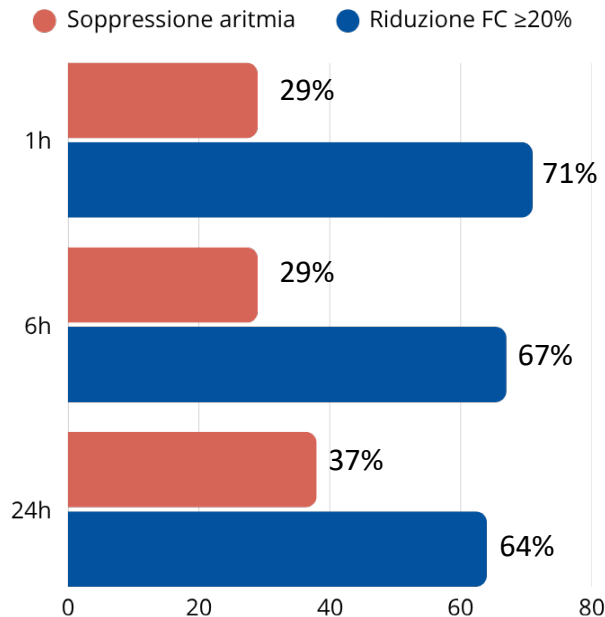
Non risposta
ad 1 h (5, 21%)

Heart rate at 1 h among non-cardioverted patients

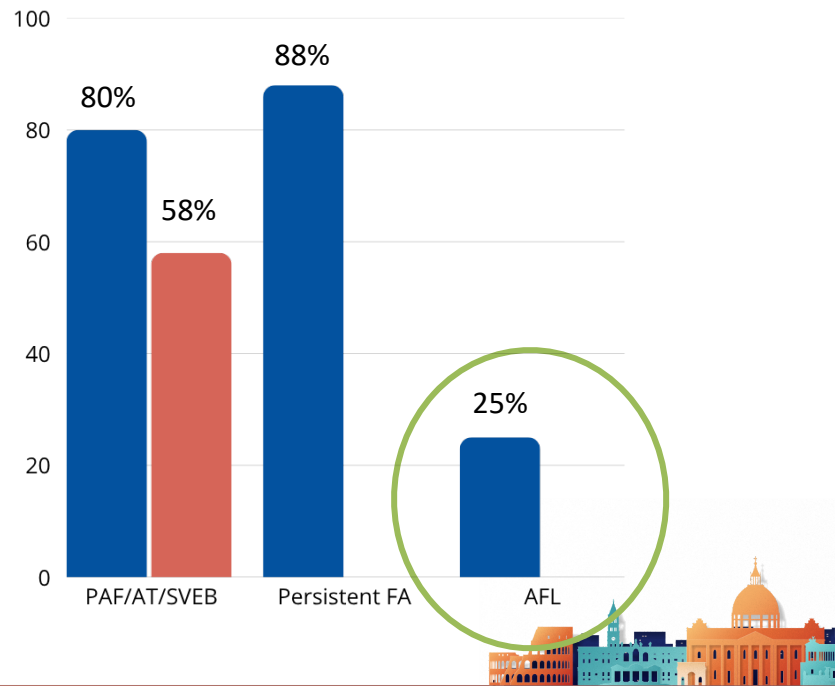


Discussione

Endpoint Primario



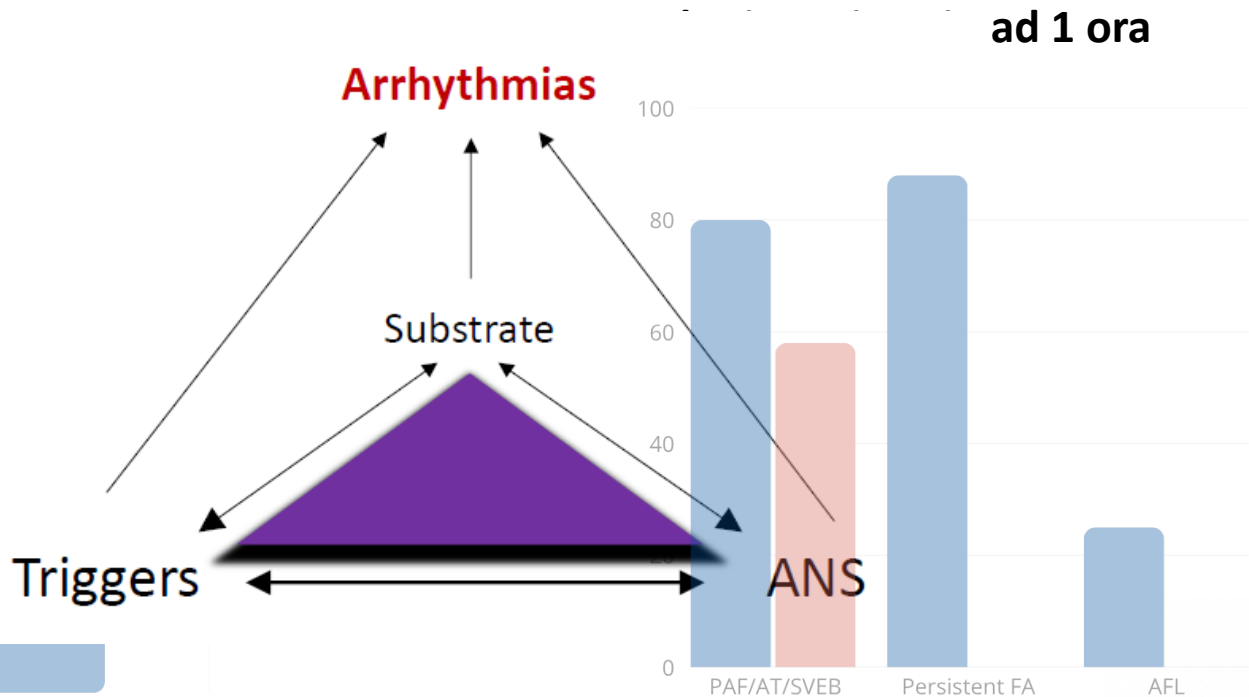
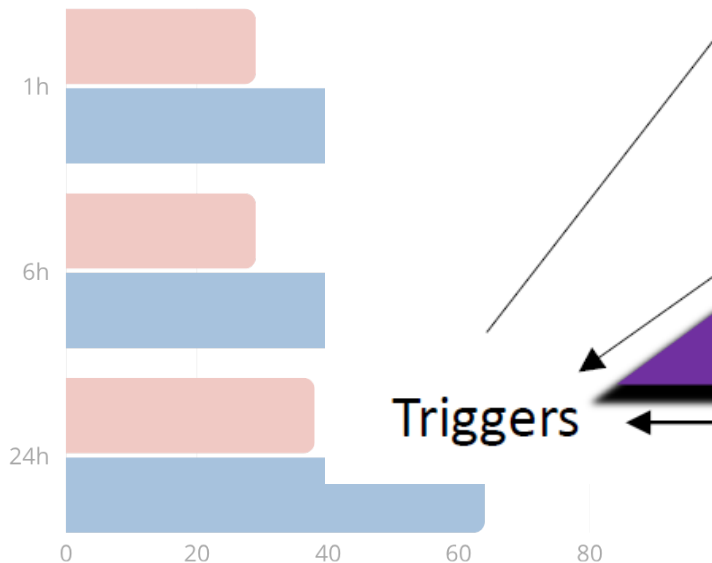
Endpoint primario ad 1 ora



Discussione

Endpoint Prim

● Soppressione aritmia



Conclusioni

PLSGB trattamento efficace per SVA refrattarie a terapia medica tradizionale, tramite:

- controllo del ritmo nelle aritmie parossistiche;
- controllo della frequenza nelle aritmie persistenti;

Profilo di sicurezza favorevole anche in condizioni di instabilità emodinamica;

Possibile strategia di bail out o stabilizzazione in previsione di ablazione TC;





Grazie per l'attenzione!